SENATE TAXATION
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What is a masonry heater?

Masonry heaters are built of masonry or ceramic components and have a large mass. Unlike fireplaces, masonry heaters are fired sporadically (typically twice a day) and use air tight doors. Combustion is rapid (1 or 2 hours) and secondary combustion occurs quickly after ignition. Currently masonry heaters are included in the International Residential Code (IRC) built in two ways: 1) manufactured and tested under UL 1482 and installed according to manufacturer's instructions, and 2) built under ASTM E1602 which addresses masonry heater construction. Units built under ASTM E1602 are site built either in custom configurations or of manufactured core systems with custom veneers.

Why aren't masonry heaters certified by the EPA?

According to the EPA, "Masonry heaters currently do not require EPA certification since their fires are small and burn hot and they produce far less smoke than a fireplace or non-certified wood stove" (www.epa.gov/woodstoves/basic.html).

In addition, the negotiations creating wood stove testing and certification recognized masonry heaters as clean burning, but they could not be tested by the methodology created to certify wood stoves; so they were exempted by the EPA due to weight (greater than 800 kg).

What testing has been done on masonry heaters?

Masonry heater testing began in the 1980's with tests and the development of methodology. Virtually all testing of masonry heaters in North America has been through OMNI Labs in Oregon. The EPA began its involvement with masonry heater testing with a 1992 EPA-audited, industry funded study which OMNI performed on five different masonry heater designs installed in different homes in the Pacific Northwest. In North America particulate emissions are regulated by the EPA. The emissions results from this study were averaged to become the EPA's AP42 emissions factor for masonry heaters of 2.8 g/kg.

Why are emissions from masonry heaters measured in g/kg instead of g/hr like woodstoves?

Because masonry heaters are only burned for short periods, the emissions rate concept used for woodstoves of grams per hour is not considered as appropriate as other means of expressing emissions data. Instead, the concept of average daily grams per hour was adopted. Emissions values were also normalized to a 1 kg/hr burn rate, the average Phase II EPA woodstove rate, and presented as normalized average daily grams per hour. The normalized value (which equals the g/kg value) is a more appropriate way to express emissions because it eliminates burn rate as a variable, placing all heaters and Phase II woodstoves on a relatively "level playing field". Additionally, the efficiencies of all these burning devices are very similar, further supporting the use of this approach.

What are the results of the testing that was done at OMNI Labs?

The five different masonry heaters tested by OMNI Labs found that the average emissions were 79% lower than the EPA's AP-42 emissions value of 14.9 g/kg for conventional woodstoves. When the test results were normalized to a 13,000 BTU/hr heat output (per the EPA's calculation for emissions reductions credits, 1991) the five heater average was 81%. Pellet stoves were 91% and Phase II noncatalytic stoves were 64%.